

# JEFFOCORIS GEN. N. – A NEW PODOPINE GENUS FROM AUSTRALIA (HETEROPTERA: PENTATOMIDAE)

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The new genus *Jeffocoris* and new species *J. grossi* of the subfamily Podopinae are described from Australia, where nine podopine genera are now known. *Jeffocoris* is compared with the related genus *Deroploopsis*.

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Schouteden (1906), in the first revision of genera of the subfamily Podopinae (as Graphosomatinae), listed five genera from the tribe Graphosomatini (as Graphosomataria) as occurring in Australia: *Deroploa* Westwood, 1835; *Testrica* Walker, 1867, with the new subgenus *Protestrica*; *Testricoides* Schouteden, 1905 (a junior synonym of *Dandinus* Distant, 1904); *Numilia* Stål, 1867 and *Deroploopsis*. The last genus was originally described by Schouteden (op. cit.), with the type species *Deroploa curvicornis* Stål, 1876. Stål (1876), in one of the first papers on Australian Pentatomoidea, mentioned only three podopine genera: *Testrica*, *Numilia* and *Deroploa*.

Musgrave (1930) published the next revision of Australian representatives of the subfamily Podopinae (as Graphosomatinae). He listed eight genera from the tribe Graphosomatini: *Deroploopsis* Schouteden, 1906; *Deroploa*; *Eufroggattia* Goding, 1903; *Numilia*; *Dandinus*; *Testrica*; *Protestrica*; and *Propetestrica*; the last was described (op. cit.) as a new genus.

Gross (1975), in the last comprehensive study of Australian Pentatomoidea, classified the representatives of the Podopinae in two genus groups: genus group *Podops* Laporte, 1832 (approximately the tribe Podopini) and genus group *Tarisa* Amyot and Serville, 1843 (approximately the tribe Graphosomatini). Gross mentioned five podopine genera from the genus group *Tarisa* occurring in South Australia: *Deroploopsis*, *Dandinus*, *Testrica*, *Protestrica* and *Propetestrica*.

A new podopine genus from Western Australia was recognised during a complex revision of all genera of the subfamily Podopinae. Nine podopine genera are now known from Australia: *Dandinus*, *Deroploa*, *Deroploopsis*, *Eufroggattia*, *Numilia*, *Propetestrica*, *Protestrica*, *Testrica*, and the new genus, *Jeffocoris*.

The pygophore in this paper is illustrated upside down with the dorsal rim down, ventral rim up. This allows comparison of these illustrations with some recent ones of pentatomoid (Schaefer, 1977; Davidová-Vilímová & McPherson, 1992) or podopine (Schaefer, 1981) pygophores.

Strongly sclerotised and pigmented parts are represented by stippling on the illustrations.

## *Jeffocoris* gen. n.

Type species: *Jeffocoris grossi* sp. n. (by monotypy).

### Etymology

The name of the genus is derived from the personal name of Jeff Parris. The gender is masculine.

### Diagnosis

Ground colour dark brown with pale brown to beige spots on head and pronotum, and longitudinal keels on pronotum and scutellum.

Head slightly slanted ventrally; with almost rectangular outline, apex broadly rounded (Fig. 1). Approximately anterior 1/3 of length of head recurved dorsally at right angle.

Pronotum with long, robust process with wide, undivided apex at lateral angle. One medial longitudinal keel and two sublateral oblique keels (Fig. 2).

Orifice of metapleural scent gland on top of protuberance bent in several places; protuberance placed halfway along width of metapleura and at 1/4 of length from posterior margin of metapleura. Auricle at orifice absent, evaporative area represented by fine-grained surface of protuberance and of small plate around its base.

Scutellum conspicuously long, exceeding apex of abdomen, narrow; about 1/2 of corium and large part of clavus left uncovered by scutellum (Fig. 4). Proepisternum with flattened anterior margin (Fig. 3).

## METHODS

The terminology of male external genitalia follows Davidová-Vilímová & McPherson (1992).

Abdominal sterna 3–7 with two short trichobothria laterally on each side, trichobothria in transverse position to each other, lateral trichobothrium at spiracular line, shorter than medial one.

Male external genitalia: Paramere conspicuously small, peduncle gradually widens to hypophysis, which narrows to its apex (Figs 8–11). Large, flat infolding of lateral rim of pygophore the most conspicuous structure on pygophore (Figs 5,6), at right angle to lateral wall. Phallus with long, cylindrical phallotheca; conjunctiva with unpaired membranous process divided into two long apices crossing one another (Figs 12–14). Endophallic duct forms short, wide, sclerotised vesica; secondary gonopore slightly recurved ventrally (Figs 12–14).

### Diagnosis

*Jeffocoris* is similar and probably closely related to *Deroploopsis*. The latter genus has five species, three of which were studied during revision of the Podopinae: *D. curvicornis* (Stål, 1876), *D. recticornis* Musgrave, 1930 and *D. trispinosus* Musgrave, 1930.

These two genera share several apomorphic characters within the Podopinae: lateral angle of pronotum with long, robust process; anterior margin of proepisternum flattened; medial longitudinal keel on pronotum developed along the entire length of pronotum; scutellum conspicuously long, exceeding apex of abdomen; evaporative area small, only on metapleura, auricle absent.

*Jeffocoris* differs from *Deroploopsis* by the following characters.

Head: Sexual dimorphism in shape of head exists in *Deroploopsis*: Head of male is elongate, long mandibular plates do not touch one another before anteclypeus, their apical parts are recurved dorsally at obtuse angle, not at right angle; head of female is of approximately rectangular outline. Only males of *Jeffocoris* are known. Outline of head of male is almost rectangular, mandibular plates touch one another before anteclypeus, about apical 1/3 of length of head is recurved dorsally at right angle (Fig. 1).

Pronotum: Larger, triangular process is developed at anterior angle of pronotum in *Deroploopsis*. Conspicuously long, apically divided process present at lateral angle of pronotum in *Deroploopsis*. Only small process is developed at anterior angle, and process at lateral angle is not divided in *Jeffocoris* (Fig. 2). Pronotum of *Deroploopsis* bears medial longitudinal keel, and laterally one anterior tubercle. Pronotum of *Jeffocoris* bears medial longitudinal keel, and short, sublateral oblique keels on anterior part (Fig. 2).

Orifice of scent gland is at centre of protuberance in *Deroploopsis*, posteromedial in *Jeffocoris*.

Entire scutellum of *Deroploopsis* is brown and only slightly exceeds apex of abdomen. Scutellum of

*Jeffocoris* is brown and bears a medial longitudinal beige keel; it conspicuously exceeds apex of abdomen.

Shape of paramere of *Deroploopsis* is very similar to that of *Jeffocoris* (see description) but bears a small membrane connected to peduncle. Paramere of *Jeffocoris* lacks a membrane.

Wide infolding of ventral rim of pygophore is developed in *Deroploopsis*; only narrow infolding is developed in *Jeffocoris*.

Vesica is short, entirely recurved distally in *Deroploopsis*; only slightly recurved posteroventrally in *Jeffocoris*. Medial penial lobe is of more complicated shape in *Deroploopsis* than in *Jeffocoris*.

### *Jeffocoris grossi* sp. n.

#### Etymology

The name of the species is derived from that of the hemipterist G. F. Gross.

#### Material examined

Only the type material is known. Holotype: male, West Australia, Dedari, 40 mi W of Coolgardie, 11–21 January 1963, R. E. Turner. Paratype: male, from the same locality. Both type specimens are deposited in the collection of the Natural History Museum, London.

#### Distribution

Western Australia.

#### Description

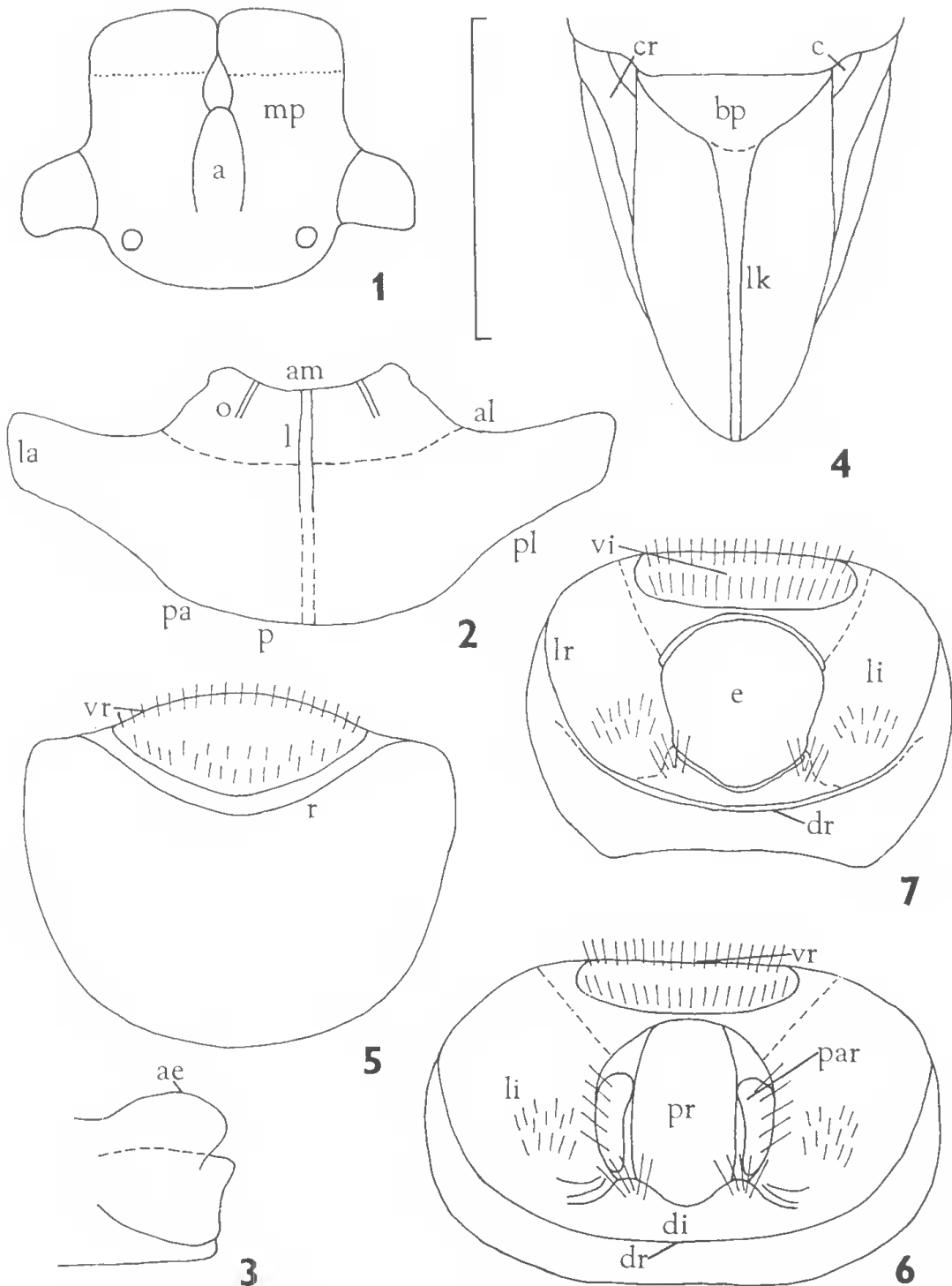
Measurements (in mm, N = 2): Total body length: 4.5 – 4.7; head length: 0.7 – 0.8, width: 1.1 – 1.2; pronotum length: 1.3 – 1.5, width: 4.1 – 4.7.

Head (Fig. 1): Eyes large, a little protuberant (Fig. 1). Mandibular plates about 1/3 longer than anteclypeus, touching one another before anteclypeus. Anterior 1/3 of length of head recurved dorsally at right angle. Anteclypeus narrow, short (Fig. 1). Dorsal surface of head almost flat. Antennae five-segmented, segment 5 longest, segment 1 shortest.

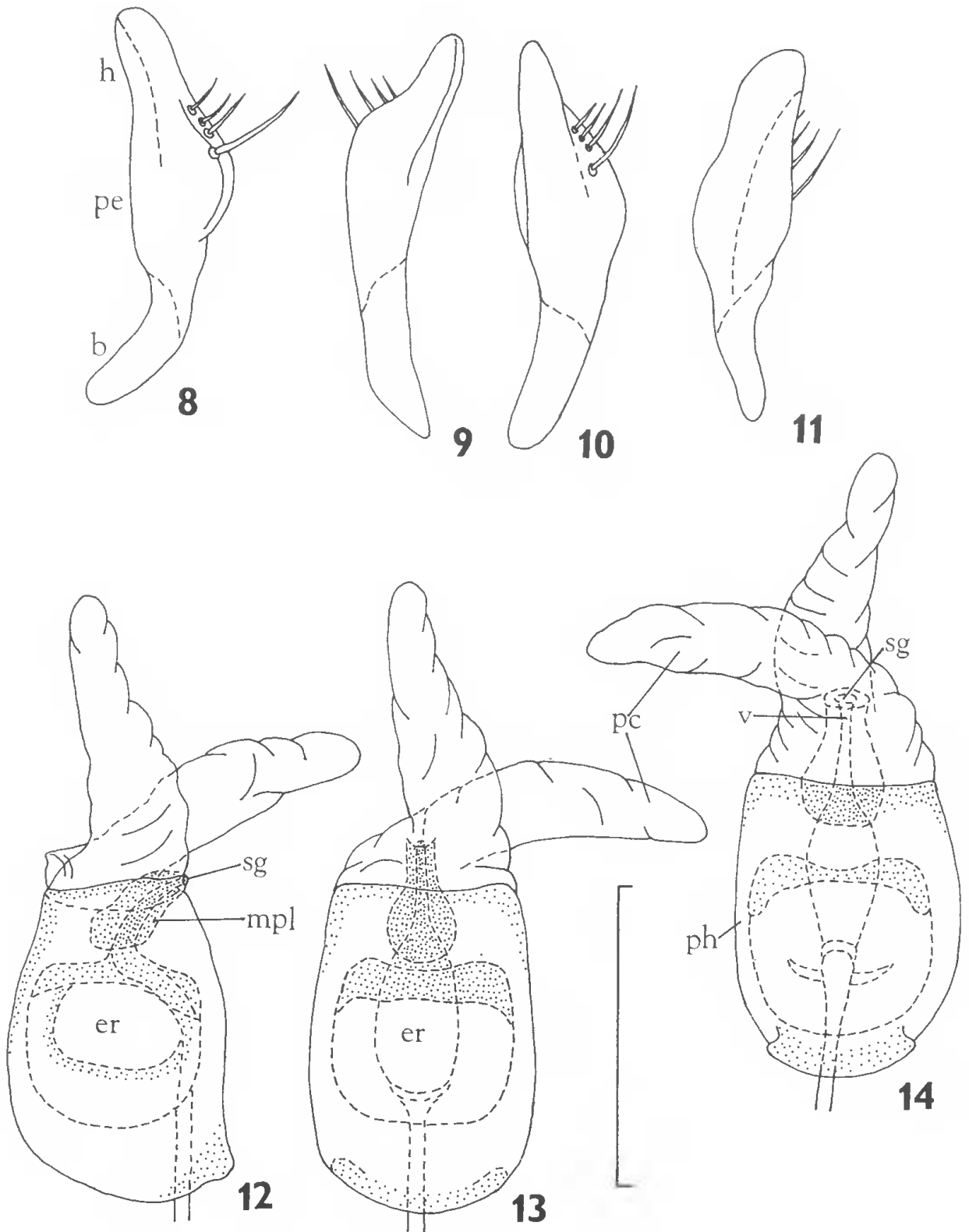
Bucculae short, conspicuously high, with straight ventral margin; dark brown, with yellow stripe on ventral margin. Apex of labium reaching to mesocoxae, segment 1 shorter than bucculae.

Pronotum (Fig. 2): Anterior margin concave; anterior angle with small triangular tooth-shaped process, slanted to beginning of conspicuously concave anterolateral margin. Lateral angle with long, robust process. Posterolateral and posterior margins almost straight, posterior angle rounded.

Median longitudinal, conspicuously elevated keel on anterior 1/3 of pronotum, only slightly elevated on posterior 2/3 of pronotum. Short, oblique keel sublaterally on each side at anterior margin. Transverse keel vaguely outlined on anterior part of pronotum.



FIGURES 1–7. *Jeffocoris grossi*. 1, head, dorsal view, dotted line = apical part of head recurved dorsally; 2, pronotum, dorsal view, transverse dashed line = transverse keel, longitudinal dashed line = posterior part of longitudinal keel; 3, left proepisternum, ventral view; 4, scutellum, dorsal view, dashed line = posterior outline of basal plate; 5, pygophore, posterior view; 6, pygophore, dorsal view, dashed line = contact of infoldings of lateral rim and of ventral rim; 7, dissected pygophore, dorsal view. a, anteclypeus; ae, anterior margin of proepisternum; al, anterolateral margin of pronotum; am, anterior margin of pronotum; bp, basal plate of scutellum; c, clavus; cr, corium; di, infolding of dorsal rim of pygophore; dr, dorsal rim of pygophore; e, external opening of pygophore; l, longitudinal keel on pronotum; la, lateral angle of pronotum; li, infolding of lateral rim of pygophore; lk, longitudinal keel on scutellum; lr, lateral rim of pygophore; mp, mandibular plate; o, oblique keel on pronotum; p, posterior margin of pronotum; pa, posterior angle of pronotum; par, paramere; pl, posterolateral margin of pronotum; pr, proctiger; r, ridge on ventral wall of pygophore; vi, infolding of ventral rim of pygophore; vr, ventral rim of pygophore. Scale line: 0.9 mm: fig. 1; 1 mm: figs. 5–7; 1.1 mm: fig. 3; 1.8 mm: fig. 2; 2.4 mm: fig. 4.



FIGURES 8–14. *Jeffocoris grossi*. 8–11, left paramere, 8, lateral view, 9, medial view, 10, posterior view, 11, anterior view; 12–14, phallus, 12, lateral view, 13, dorsal view, 14, ventral view. b, base of paramere; er, ejaculatory reservoir; h, hypophysis of paramere; mpl, medial penial lobe; pc, process of conjunctiva; pe, peduncle of paramere; ph, phallosome; sg, secondary gonopore; v, vesica. Scale line: 0.3 mm: figs. 12–14; 0.6 mm: figs. 8–11.

Venter of thorax: Sternal sulcus conspicuously concave, with fine, short pubescence. Anterior margin of proepisternum elongated and flattened (Fig. 3); margins of meso- and metaepisternum rounded. Protuberance with orifice of scent gland narrow at base, widened to apex.

Scutellum and uncovered parts of dorsum of abdomen (Fig. 4): Width of base of scutellum the same as distance between posterior angles of pronotum.

Scutellum slightly convex; triangular basal plate developed at its base; longitudinal, elevated keel beginning from basal plate reaching to apex. Frena developed as oblique, low sclerite on ventral surface of scutellum, reaching to 1/3 of length.

Venter of abdomen: Venter conspicuously flattened medially, base without distinct structures. Spiraculæ large, distinctly elevated.

Male external genitalia: Pygophore (Figs 5–7) oval in dorsal view; external opening dorsal. Ventral wall slightly convex in posterodorsal view; dorsal 1/4 flattened, with sparse pubescence, delimited by low, wide ridge (Fig. 5).

Ventral rim slightly convex in dorsal view (Fig. 6). Infolding of rim wide (Figs 6, 7), almost at right angle to ventral wall, concave medially.

Dorsal rim convex in dorsal view (Fig. 6). Infolding of rim wide, at obtuse angle to dorsal wall, sublateral tufts of pubescence near external opening of pygophore (Figs 6, 7). Infolding convex medially, gradually concave laterally, where infolding merges with infolding of lateral rim.

Lateral rim convex in dorsal view (Fig. 6). Infold-

ing of rim conspicuously wide, at right angle to lateral wall, with sparse pubescence (Figs 6, 7). Infolding concave medially, gradually convex ventrally, where infolding merges with infolding of ventral rim.

External opening in dorsal view without excavations for parameres (Fig. 7). Proctiger of simple shape (Fig. 6).

Paramere (Figs 8–11) with four rigid setae on beginning of hypophysis; apex of paramere directed ventrally in natural position in pygophore.

Phallus (Figs 12–14) with phallosome strongly sclerotised on following parts: ventral side basally, dorsal side apically, and entire apex. Ejaculatory reservoir of complicated shape (not studied in detail) in middle of phallosome.

Conjunctiva represented by membranous process (Figs 13, 14).

Vesica begins from middle of apex of ejaculatory reservoir, ending in secondary gonopore directed posteroventrally (Fig. 12). Strongly sclerotised, unpaired medial penial lobe surrounds vesica, only secondary gonopore left free. Medial penial lobe cylindrical (Fig. 12), closed on both sides except base of dorsum.

Phallus directed in natural position in pygophore anteriorly (phallosome) and dorsally (conjunctiva and vesica).

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